



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/712,070	11/13/2003	Kotaro Kashiyama	80329-0016	7914
23353	7590	05/25/2007	EXAMINER	
RADER FISHMAN & GRAUER PLLC			KRAUSE, JUSTIN MITCHELL	
LION BUILDING			ART UNIT	PAPER NUMBER
1233 20TH STREET N.W., SUITE 501			3682	
WASHINGTON, DC 20036				

MAIL DATE	DELIVERY MODE
05/25/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Interview Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/712,070	KASHIYAMA ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Justin Krause	3682	

All participants (applicant, applicant's representative, PTO personnel):

(1) Justin Krause.

(3) Carl Schaukowitch.

(2) Thomas Hannon.

(4) \_\_\_\_\_.

Date of Interview: 17 May 2007.

Type: a) Telephonic b) Video Conference  
c) Personal [copy given to: 1) applicant 2) applicant's representative]

Exhibit shown or demonstration conducted: d) Yes e) No.

If Yes, brief description: \_\_\_\_\_.

Claim(s) discussed: 1.

Identification of prior art discussed: NONE.

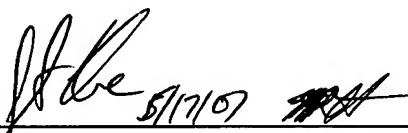
Agreement with respect to the claims f) was reached. g) was not reached. h) N/A.

Substance of Interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: Proposed amendments to claim were presented and discussed. Examiners Krause and Hannon suggested changes to the proposed language to better clarify the claim language. Any amendments are subject to further search and consideration.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN A NON-EXTENDABLE PERIOD OF THE LONGER OF ONE MONTH OR THIRTY DAYS FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

  
5/17/07  
Examiner's signature, if required

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of:

Kotaro KASHIYAMA et al.

Attorney Docket No.: ASA-0016

Application No.: 10/712,070

Examiner: J. M. Krause

Filed: November 13, 2003

Art Unit: 3682

For: CYLINDRICAL-SHAPED BEARING FOR RECIPROCATORY SLIDING

Fax: 571-273-3012

***Proposed Amendments - for Discussion Purposes only***

As proposed with claims 1-3 and 8-10 pending on the application, claims 4 and 5 are canceled without prejudice or disclaimer, claims 1 and 8 are amended and claims 9 (original claim 4) and 10 (original claim 5) are added.

1. (Previously Presented) A cylindrical-shaped bearing for supporting a reciprocating shaft, comprising,  
an inner peripheral surface for supporting thereon the reciprocating shaft  
when the shaft is a reciprocating,  
wherein the inner peripheral surface includes a first surface extending parallel to a central axis of the cylindrical-shaped bearing, and second and third tapered surfaces between which the first surface is arranged in a direction of the central axis and which are inclined with respect to the central axis in such a manner that diameters of the second and third tapered surfaces decrease in respective axial directions away from respective axial ends of the inner peripheral surface toward the first surface to enable the shaft to contact simultaneously both of the second and third tapered surfaces when the shaft is reciprocating and is inclined with respect to the central axis.

2. (Original) A cylindrical-shaped bearing according to claim 1, wherein when an axial length of the first surface is P and an axial length of the inner peripheral surface as a total amount of the axial length of the first surface and axial lengths of the second and third tapered surfaces is W, a relationship between P and W satisfies a formula of

Application No.: 10/712,070

ASA-0016  
(80329-0016)

$0.5W \leq P/W \leq 1/3.$

3. (Original) A cylindrical-shaped bearing according to claim 1, wherein an angle between the central axis and each of the second and third tapered surfaces in a cross sectional view taken along an imaginary plane extending along the central axis is not less than 0.05 degree and not more than 5.0 degree.

4. (Canceled)

5. (Canceled)

6. (Canceled)

7. (Canceled)

8. (Currently Amended) A cylindrical-shaped bearing according to claim 2,  
wherein  $PAA-0 \leq 2.45^\circ$ .

9. (New – Original claim 4) A cylindrical-shaped bearing according to claim 1, wherein in a cross sectional view taken along an imaginary plane extending along the central axis, one of side surfaces of the second tapered surface and one of side surfaces of the third tapered surface opposed to each other through the central axis is parallel to each other.

10. (New - Original claim 5) A cylindrical-shaped bearing according to claim 9, wherein a distance between the ones of the side surfaces in a direction perpendicular to the ones of the side surfaces is not less than a diameter of the reciprocating shaft.

DC275942.DOC